12500420 Moxee Drain at Birchfield Rd, WA

WATER-QUALITY STATION ANALYSIS—WY1999–WY2000

SAMPLING LOCATION—Samples were taken from a wading section approximately 15 feet above the gage.

SAMPLING METHODS—EWI samples for the cone splitter and churn were obtained from 10 verticals using a DH-81 sampler with 3-liter teflon bottle. Samples for the analysis of major ions, nutrients, and trace elements were composited and split using the churn, whereas samples for the analysis of organic compounds, dissolved and suspended organic carbons, and suspended sediment were taken from the cone splitter. Water was directly filtered and/or preserved, if needed, and then chilled. Samples for chemical analyses were shipped via FedEx to NWQL the same day. Suspended sediment samples were taken to Cascade Volcano Observatory Sediment Lab for analysis.

Basic field parameters (air temperature, water temperature, barometric pressure, dissolved oxygen, pH, specific conductance, alkalinity) were measured at every visit. Dissolved oxygen and water temperature were measured mid-channel, whereas specific conductance and pH were measured on aliquots from the composited sample. Alkalinity was determined from a filtered sample taken from the composited sample.

Turbidity was determined from an aliquot taken from the composited sample using the Hach 2100N Turbidimeter. These analyses were performed either by Jan O'Neil in the Pasco Field Office or Bill Rice (Roza-Sunnyside Board of Joint Control) in the Sunnyside Valley Irrigation District lab space.

Continuous streamflow, water temperature, and specific conductance were recorded hourly and published for the year. For more details, see the records from the Pasco Field Office.

SAMPLING PROGRAMS—High intensity phase (HIP) agricultural indicator site for the National Water-Quality Assessment (NAWQA) Program visited from May 1999–September 1999 (irrigation season) on a weekly basis and from October 1999–January 2000 (nonirrigation season) on a monthly basis. Moxee Drain was also sampled twice during the August 1999 synoptic sampling and once each during the June and July 2000 synoptic samplings.

Suspended sediment: Every sampling 25 visits
SH 2075 SOC/DOC: Every sampling, 25 visits
SH2701 Major ions: Once a month, 10 visits
SH2702 Nutrients: Every sampling, 25 visits
SH2703 Trace elements: Every other sampling during irrigation season and every sampling during nonirrigation season (switched to SH2710 for the January 2000 sampling), 14 visits
SH2710 Trace elements: January 2000, 1 visit
SH2001 Pesticides in filtered water: Every sampling, 25 visits
LC9060 Pesticides in filtered water: Every sampling, 25 visits
LC9002 Pesticides and degradation products in filtered water: Once during the August 1999 synoptic sampling and every sampling from November 1999–January 2000, 4 visits
LC8398 Custom organochlorine compounds in whole water (SH1398 plus o,p'-DDX, cis-nonachlor, o,p'-methoxychlor, and oxychlordane): Every other sampling during irrigation season and every sampling during nonirrigation season, 14 visits
LC8388 Custom chlorophenoxy acid herbicides in whole water (SH79 plus p,p'-DDA): Sampled in November and December 1999

Quality-control samples were taken as follows:

July 14	SH2001 replicate and field spike—LC8398 ruined at NWQL
July 21	LC9060 replicate and lab spike; SH2075 blank; alkalinity replicate
July 27	alkalinity replicate
August 3	LC9060 lab spike and spike replicate
August 11	SH2001 field spike and spike replicate
August 18	alkalinity and suspended sediment replicates
August 25	LC8398 replicates (2) and alkalinity replicate
September 2	LC9060 blank
September 9	LC9060 replicate and lab spike; SH2701 and SH2702 standard reference samples; alkalinity replicate
September 15	SH2001 blank; SH2075 replicate
September 22	LC8398 replicate; alkalinity replicate
September 29	SH2702 replicates (2); alkalinity replicate
October 20	LC8398 replicate and lab spike; SH2703 standard reference sample; alkalinity rep.
November 16	LC9002 blank; LC8388 replicate and field spike
December 8	LC9060 blank; LC8388 replicate; SH2702 replicate
January 11	SH2075 blank
July 20, 2000	SH2001 blank; LC9002 replicate and blank

REMARKS AND REVIEW OF DATA—

Data to be included in Annual Data Report: discharge, field parameters (barometric pressure, air temperature, water temperature, pH, dissolved oxygen, specific conductance, alkalinity), suspended sediment, SH2075, SH2701, SH2702, SH2703, SH2710, SH1398, SH79, SH2001

Data not to be included in Annual Data Report: Turbidity, LC8398 custom parameters (o,p'-DDX, cis-nonachlor, o,p'-methoxychlor, oxychlordane), LC8388 custom parameter (p,p'-DDA), LC9060, LC9002

Comments about specific values:

Air temperature (P00020)	Values missing for July 7, July 14, August 3 at 1940, and December 8, 1999, and June 20, 2000, because field personnel did not measure air temp
Carbonate (P00452)	Value is missing for November 16 because field personnel missed the first endpoint (beginning pH=8.6); reported as missing rather than 0
Sulfate (P00945)	Value for August 3 (at 1940) was updated from 0.10 mg/L to 12.2 mg/L after verification request; NWQL will update database
Dissolved organic carbon (P00681)	Value for blank sample on July 21 (0.6 mg/L) was verified
Total Kjeldahl N (P00625)	Values for June 10 (1.1 mg/L) and August 3 (at 1940 [0.80 mg/L]) were verified; questioned because they were higher than those for the rest of the period of record; values remain in ADR tables

Dissolved P (P00666) Orthophosphate (P00671)	Values for October 20 of P00666=0.042 and P00671=0.103 were verified; still doesn't solve problem of orthoP greater than dissP; dissP value removed for now until further resolution from NWQL
Turbidity (P00076, P82079)	Samples for May 26, June 2, and August 11 were analyzed at NWQL and will remain under pcode 00076; turbidity will not be published in ADR
p,p'-DDE (P34653)	Value for blank sample on September 15 (E 0.00158) was verified
Myclobutanil (P61599)	Value for blank sample on July 20, 2000 (E 0.00627), was verified
Methoxychlor (P39480)	Request to have Scott Knowles add "p,p'-" to column heading for ADR tables (see DDX species); o,p'-methoxychlor was analyzed as part of custom LC8398; even though the o,p'-methoxychlor data will not be in the ADR, this name change will hopefully prevent future confusion
Sus Sed % finer (P70331)	Values for November 16 and December 8 were removed; not reporting % finer values (P70331) for sus sed concentrations (P80154) less than 15 mg/L